

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

SHARPER IMAGE CORPORATION, a
Delaware corporation, and ZENION
INDUSTRIES, INC., a California
corporation,

No. C 02-4860 CW
(Lead Case)
No. C 04-0529 CW
(Consolidated Case)

Plaintiffs,

v.

HONEYWELL INTERNATIONAL, INC., a
Delaware corporation, and KAZ,
INC., a New York corporation,

Defendants.

SHARPER IMAGE CORPORATION, a
Delaware corporation,

No. C 04-0824 CW

Plaintiff,

v.

THE MAY DEPARTMENT STORES COMPANY,
a Delaware corporation, TARGET
CORPORATION, a Minnesota
corporation, IONIC PRO, LLC, a
Delaware corporation, QWIK COOK,
INC. d/b/a/ HOME TRENDS, a New York
corporation, IDEAL PRODUCTS, LLC, a
Nevis (offshore) company, SYLMARK,
INC., a Delaware corporation,
SYLMARK LLC, a Delaware
corporation, FACTORIES2U, LLC, a
California corporation, and CHAIM
MARK BESS, an individual,

Defendants.

No. C 03-4426 CW

SHARPER IMAGE CORPORATION, a
Delaware corporation, and ZENION
INDUSTRIES, INC., a California
corporation,

Plaintiffs,

CLAIM CONSTRUCTION
ORDER

v.

NEOTEC, INC., a Nevada corporation,
INDOOR PURIFICATION SYSTEMS, INC.,
a Utah corporation, and ASSET
MARKETING SERVICES, INC. d/b/a NEXT
TEN,

Defendants.

The parties captioned above dispute the meaning of several terms in the claims of U.S. Patent Nos. 6,713,026 (the '026 patent), 6,709,484 (the '484 patent) and 4,789,801 (the '801 patent). Each party requests that the Court adopt its proposed construction of the disputed terms. Claim construction hearings for each case were held on October 22, 2004. Having considered the parties' papers, the evidence cited therein and oral argument, the Court construes the disputed terms as set forth herein.

BACKGROUND

I. Sharper Image v. Kaz

Plaintiff Sharper Image Corporation is the assignee of the '026 and '484 patents, and Plaintiff Zenion Industries, Inc. is

1 the assignee of the '801 patent. According to its Summary of
2 the Present Invention, the '026 patent "provides an electro-
3 kinetic system for transporting and conditioning air without
4 moving parts." The '026 patent is a continuation in part of
5 U.S. Patent No. 6,176,977 (the '977 patent). The '484 patent is
6 a continuation of the '977 patent and U.S. Patent No. 6,350,417
7 (the '417 patent). The '484 patent describes a mechanism that
8 cleans the arrays of electrodes that partially compose the
9 electro-kinetic air conditioning system described in the '026
10 patent. The '801 patent discloses technology that purports to
11 reduce the amount of ozone and nitrogen oxide produced by
12 electro-kinetic transducers.

13 Sharper Image Corporation and Zenion Industries, Inc.
14 (collectively "Sharper Image") apply the technology described in
15 the '026, '484 and '801 patents in their Ionic Breeze Air
16 Purifier product line. Sharper Image and Zenion filed their
17 original complaint on October 8, 2002, alleging that Defendants
18 Kaz, Inc. (Kaz) and Honeywell International, Inc. (Honeywell)
19 had infringed the '977 patent, the '417 patent and the '801
20 patent in developing their Environizer air purifier product
21 line. Sharper Image v. Honeywell & Kaz, C 02-4860 CW. In
22 February, 2004, Sharper Image filed a separate claim against Kaz
23 alleging infringement of three additional patents, including the
24 '026 and '484 patents. Sharper Image v. Kaz, C 04-0529 CW. On
25 March 17, 2004, in C 02-4860 CW, the Court issued an order
26 construing disputed claim terms and phrases in the '977, '417
27 and '801 patents (March 17 Order). The two lawsuits were
28

1 consolidated on April 1, 2004, and Sharper Image filed its
2 consolidated amended complaint later that month. Sharper Image
3 and Kaz now dispute the meaning of several terms and phrases in
4 the claims of the '026 and '484 patents.¹

5 II. Sharper Image v. Ionic Pro

6 Sharper Image filed a complaint on February 27, 2004
7 alleging that Defendants The May Department Stores Company;
8 Target Corporation; Ionic Pro, LLC; Qwik Cook, Inc. dba Home
9 Trends; Ideal Products, LLC; Sylmark, Inc.; Sylmark, LLC;
10 Factories2U, LLC; and Chaim Mark Bess (collectively "Ionic Pro")
11 had infringed the '026 and '484 patents by making, using and
12 selling the Ionic Pro air purifier product line. On March 19,
13 2004, the Court issued an order relating the case to C 02-4860
14 CW. On April 14, 2004, Sharper Image filed a second amended
15 complaint that did not include The May Department Stores Company
16 as a defendant.

17 III. Sharper Image v. IPS

18 This action involves the electro-kinetic transducer
19 technology claimed in the '801 patent. Electro-kinetic
20 transducers convert electrical energy into the fluid flow of air
21 by, for example, using a high voltage generator to positively
22 charge one set of electrodes and negatively charge another set
23 of electrodes. Air molecules become positively charged by
24 interacting with the positively charged electrodes and are

25
26 ¹Honeywell is not a named party in C 04-0529 CW, the now-
27 consolidated action in which the '026 and '484 patents are at
28 issue, and thus the claim construction papers filed by Kaz were
not filed on its behalf.

1 subsequently attracted to the negatively charged electrodes,
2 thus creating an electro-kinetic flow of air. The term
3 "electro-kinetic" as it is used in the '801 patent was
4 previously construed by this Court, in the March 17 Order in C
5 02-4860 CW, to mean "using electrical forces, without any
6 mechanically moving components, to create an airflow through the
7 device." March 17 Order at 8-9.

8 Sharper Image filed its original complaint in this case on
9 September 30, 2003, alleging that Defendants Neotec, Inc.,
10 Indoor Purification Systems, Inc. (IPS) and Asset Marketing
11 Services, Inc. had infringed the '801 patent as well as the '977
12 patent and U.S. Patent No. 6,163,098 (the '098 patent) by making
13 and selling their own line of air purifier products. On June
14 10, 2004, Sharper Image filed an amended complaint that did not
15 include Neotec, Inc. as a defendant. Sharper Image has since
16 settled this action with Asset Marketing Service, Inc., and IPS
17 and Sharper Image have settled the claims relating to the '977
18 and '098 patents; thus, the only patent in which claim terms are
19 disputed in this case is the '801 patent.

20 LEGAL STANDARD

21 The interpretation of patent claims is a question of law to
22 be decided by the Court. Markman v. Westview Instruments, Inc.,
23 517 U.S. 370, 371-73 (1996). "In construing the claims, the
24 analytical focus must begin and remain centered on the language
25 of the claims themselves, for it is that language that the
26 patentee chose to use to 'particularly point[] out and
27 distinctly claim[] the subject matter which the patentee regards

1 as his invention.'" Interactive Gift Express, Inc. v.
2 Compuserve, Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001)(quoting
3 35 U.S.C. § 112, ¶ 2).

4 Words in the claim are generally given their ordinary
5 meaning. Texas Digital Sys. Inc. v. Telegenix Inc., 308 F.3d
6 1193, 1201-02 (Fed. Cir. 2002) ("The terms used in the claims
7 bear a 'heavy presumption' that they mean what they say and have
8 the ordinary meaning that would be attributed to those words by
9 persons skilled in the relevant art."). "The ordinary meaning
10 of a claim term may be determined by reviewing a variety of
11 sources, including the claims themselves, other intrinsic
12 evidence including the written description and the prosecution
13 history, and dictionaries and treatises." Teleflex, Inc. v.
14 Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed. Cir. 2002)
15 (internal citations omitted).

16 While words in the claim are generally given their ordinary
17 meaning, the specification or prosecution history may indicate
18 otherwise. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576,
19 1582 (Fed. Cir. 1996). "[A] patentee may choose to be his own
20 lexicographer and use terms in a manner other than their
21 ordinary meaning, as long as the special definition is clearly
22 stated in the patent specification or file history." Id.
23 However, claims are not limited to the preferred embodiment
24 described in the specification. SRI Int'l v. Matsushita Elec.
25 Corp. of Am., 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc,
26 plurality opinion).

DISCUSSION^{2,3}

I. The '026 Patent

A. Ion Producing System; An Ion Generating Unit

Sharper Image and Kaz dispute the meaning of the terms "ion producing system" and "ion generating unit" as used in claims 11 and 17 of the '026 patent.⁴ Sharper Image's proposed construction is "a device that creates ions." Kaz construes the terms to mean "a system for producing ions at a first electrode, which ions are attracted to a second electrode, thus electro-kinetically creating an airflow between the first and second electrodes without any mechanically moving components."

Sharper Image's proposed construction is too broad; the '026 patent describes a very specific type of system that produces ions. However, Kaz's proposed construction is potentially confusing because of a previous claim construction by this Court. The Court previously construed "electro-kinetic" to mean "using electrical forces, without any mechanically moving components, to create an airflow through the device." March 17 Order at 8-9. The phrase "without any mechanically moving components" in Kaz's proposed construction is therefore

²The Court expresses no opinion as to the construction of claim terms agreed upon by the parties, nor as to how the agreed upon meanings of those claim terms affect parties to other litigation relating to the patents-in-suit.

³The Court denies Sharper Image's motion to strike Kaz's responsive opening claim construction brief. Because the Court does not rely on the picture cited by Sharper Image in its motion to strike, the motion is denied as moot.

⁴Ionic Pro agrees with Sharper Image's construction.

1 redundant. However, the portion of Kaz's proposed construction
2 that reads "between the first and second electrodes" is helpful
3 because the phrase "through the device" from the Court's
4 construction of "electro-kinetic" is generic and not specific to
5 the technology of the '026 patent.

6 The Court construes the terms "ion producing system" and
7 "an ion generating unit" to mean "a system for producing ions at
8 a first electrode, which ions are attracted to a second
9 electrode, thus electro-kinetically creating an airflow between
10 the first and second electrodes." Sharper Image states that it
11 "can accept [Kaz's] interpretation as long as it is clear that
12 where a device moves at least some air without mechanical
13 components, it falls within the scope of these terms." Pl.'s
14 Opening Br. at 5 (emphasis in original). The Court notes that
15 its construction does not address the question of whether a
16 system that creates airflow both electro-kinetically and
17 mechanically can infringe the patents-in-suit.

18 B. Housing

19 Sharper Image, Kaz and Ionic Pro propose competing
20 constructions for the term "housing" as used in claims 11, 17
21 and 18 of the '026 patent. Sharper Image construes the term to
22 mean "main body." Kaz construes the term to mean "a structure
23 that covers, protects, and supports the components of the ion
24 producing," while Ionic Pro proposes "a cover."

25 "Main body" and "a cover" are overly broad, while "a
26 structure that covers, protects, and supports the components of
27 the ion-producing system" is not supported by the intrinsic

1 evidence. However, the specification language upon which
2 Sharper Image relies to derive its construction suggests a
3 compromise. Sharper Image derives its construction from the
4 specification phrase "a louvered or grilled body that houses an
5 ionizer unit." '026 patent at 2:47-48 (emphasis added). The
6 specification subsequently describes in detail what exactly
7 comprises an ionizer unit. Kaz's central argument is that any
8 construction of "housing" should make it clear that the
9 "housing" contains all components of the ion producing system.
10 The specification language relied upon by Sharper Image does
11 that. To avoid using the disputed term in its own construction,
12 the Court construes "housing" to mean "an enclosure that
13 contains an ionizer unit."

14 C. Emitter Electrode⁵

15 Sharper Image and Kaz dispute the meaning of the term
16 "emitter electrode" as used in claims 11, 17 and 18 of the '026
17 patent and claims 29 and 32 of the '484 patent.⁶ Sharper Image
18 construes the term to mean "electrically conductive surface for
19 giving off ions." Kaz's proposed construction is "an electrode
20 for producing ions which are attracted to a collector
21 electrode," although Kaz is willing to forgo the phrase "which
22 are attracted to a collector electrode" in its construction.

23 _____
24 ⁵The Court denies Ionic Pro's request for leave to file a
25 sur-reply brief because the Court does not rely on the argument
26 raised by Sharper Image for the first time in its reply brief.

26 ⁶Sharper Image and Ionic Pro agree that the term should be
27 construed to mean "electrically conductive surfaces for giving
28 off ions."

1 In Markman, the Supreme Court recognized "the importance of
2 uniformity in the treatment of a given patent as an independent
3 reason to allocate all issues of construction to the court."
4 517 U.S. at 390. The Supreme Court assigned the task of claim
5 construction to courts rather than to juries in order to ensure
6 the uniformity necessary for patents to provide public notice of
7 inventions, encourage innovation, and to protect the property
8 rights of patentees. Id. As an extension, Markman encouraged
9 the application of a given court's previous claim construction
10 to new and independent infringement defendants in the interest
11 of "intra-jurisdictional uniformity." Id. at 391. This Court
12 previously rejected Sharper Image's attempt to substitute the
13 term "surfaces" for the term "electrodes" in construing the
14 '801, '977 and '417 patents, ruling that "electrode" should
15 instead be given its plain and ordinary meaning. March 17 Order
16 at 10-11. Substituting the two terms is similarly inappropriate
17 here. Using "electrode" instead of "surface" in Sharper Image's
18 construction and shortening Kaz's construction to exclude the
19 conceded phrase, the parties' constructions are almost identical
20 ("electrode for giving off ions" and "an electrode for producing
21 ions"). Because "giving off" describes "emitting" better than
22 does "producing," the Court construes the term "emitter
23 electrode" to mean "electrode for giving off ions."

24 D. Collector Electrode

25 Sharper Image and Kaz dispute the meaning of the term
26 "collector electrode" as used in claims 11, 17 and 18 of the
27
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1 '026 patent.⁷ Sharper Image's proposed construction is
2 "electrically conductive surface for collecting ions and
3 airborne particles." Kaz construes the term to mean "an
4 electrode that is removable from the housing and that receives
5 ions produced from an emitter electrode," although it is willing
6 to drop the phrase "produced from an emitter electrode" from its
7 construction.

8 Again, it is improper to substitute the word "surface" for
9 the word "electrode" because this Court previously ruled that
10 "electrode" should be given its plain and ordinary meaning. The
11 remaining issues in dispute are (1) Sharper Image's phrase "and
12 airborne particles" and (2) Kaz's phrase "removable from the
13 housing." First, it is clear that the '026 patent contemplates
14 that the collector electrode will collect both ions and other
15 airborne particles. In the Summary of the Present Invention,
16 the specification states, "The dust and other particulate matter
17 attaches electrostatically to the second array (or collector)
18 electrodes, and the output air is substantially clean of such
19 particulate matter." '026 Patent at 3:13-15. Among the central
20 purposes of the '026 patent is to invent a method to filter
21 circulated air; thus, the term "collector electrode" should be
22 construed as an electrode that collects airborne particles as
23 well as ions.

24 As to the second remaining issue, the term "collector
25

26 ⁷Sharper Image and Ionic Pro agree that the term should be
27 construed to mean "electrically conductive surface for
28 collecting ions and airborne particles."

electrode" is preceded by the word "removable" in claims 17 and 18 of the '026 patent (although not in claim 11). Both parties agree that "collector electrode" should be construed identically in all three claims. Therefore, adding the phrase "removable from housing" to the construction of the term "collector electrode" does not assist in interpreting the claim language because doing so would be expressly redundant in claims 17 and 18, and implicitly so in claim 11, which describes the collector electrode as being vertical "when in a resting position." '026 Patent at 13:3. The Court therefore construes the term "collector electrode" to mean "electrode that receives ions and airborne particles."

E. A Second Removable Collector Electrode; A Removable Collector Electrode

Sharper Image, Kaz and Ionic Pro dispute the meaning of the terms "a second removable collector electrode" and "a removable collector electrode" as used in claims 17 and 18 of the '026 patent. Because the Court has already construed the term "collector electrode," there is no need to construe the term "removable collector electrode." The term "removable" is given its plain and ordinary meaning.

F. Resting Position

The parties no longer dispute the meaning of the term "resting position" as used in claims 11, 17 and 18 of the '026 patent. The parties agree that the term should be construed as meaning "stationary position."

G. Vertically Lifting Said Collector Electrode

1 The parties offer competing constructions of the phrase
2 "vertically lifting said collector electrode" as used in claims
3 11, 17 and 18 of the '026 patent. Sharper Image construes the
4 phrase to mean "removing in a vertical direction the surface for
5 collecting ions and airborne particles such that the emitter
6 electrode remains in the housing." Kaz construes the phrase to
7 mean "raising the collector electrode in an upward direction,"
8 while Ionic Pro proposes "lifting the surface for collecting
9 ions and airborne particles in a vertical direction."

10 Sharper Image's phrase "such that the emitter electrode
11 remains in the housing" does not aid in interpreting the claim
12 phrase. The phrase "vertically lifting said collector
13 electrode" is construed as meaning "removing the collector
14 electrode in a vertical direction."
15
16

17 H. Vertically Returnable with the Assistance of Gravity;
18 Such that Gravity Will Assist with Return of Said
19 Second Removable Collector Electrode

20 Sharper Image and Kaz now agree that these disputed phrases
21 should be construed as meaning "able to be replaced in a
22 vertical direction while under the influence of gravity."
23 However, Ionic Pro disputes that construction and proposes as
24 follows: "[Can be returned when it is positioned 90° to the
25 horizon.] As a result of the presence of gravity, less energy
26 is required to return the collector electrode to its resting
27 position than in the absence of gravity. In other words, the
28 force in the downward direction attributable to gravity is

greater than the vertical component of the frictional force."

The construction agreed upon by Sharper Image and Kaz is not helpful because everything on earth is "under the influence of gravity" to some extent. Ionic Pro's construction is unnecessarily long and confusing. The Court therefore construes the disputed phrases to mean "replaceable in a sufficiently upright position to benefit from the force of gravity," which Sharper Image proposed in its reply claim construction brief in C 04-0824 CW.

I. Opening in an Upper/Top Portion of Said Housing

The parties offer competing constructions of the term "opening in an upper/top portion of said housing" as used in claims 11, 17 and 18 of the '026 patent. Sharper Image construes the term to mean "aperture in an upper part of the main body," while Ionic Pro proposes "a hole in the top of the cover." Kaz proposes the following construction: "an opening through the uppermost surface of the housing as presented to the user during normal operation of the system, through which opening the collector electrode can be vertically removed and returned by the user without having to open the housing."

Kaz's construction improperly imports limitations from the specification into the claim language. The term "opening in an upper/top portion of said housing" is construed to mean "aperture in an upper part of the housing."

J. Ion Producing Air Conditioning System

The parties dispute the meaning of the term "ion producing air conditioning system" as used in claim 18 of the '026 patent.

1 Sharper Image construes the term to mean "a system that creates
2 ions and treats air." Kaz argues that the term should be
3 construed as having the same meaning as the terms "ion producing
4 system" and "an ion generating unit," while Ionic Pro proposes
5 "a device that generates and releases electrically charged
6 particles into the air."

7 Because the term "ion producing air conditioning program"
8 is used almost identically in claim 18 as the terms "ion
9 producing system" and "ion generating unit" are used in claims
10 11 and 17, the Court gives the term an identical construction:
11 "a system for producing ions at a first electrode, which ions
12 are attracted to a second electrode, thus electro-kinetically
13 creating an airflow between the first and second electrodes."

14 K. Vertically Elongated

15 Sharper Image and Ionic Pro dispute the meaning of the term
16 "vertically elongated" as it modifies the term "housing" in
17 claims 11 and 18 and the term "collector electrode" in claim 11
18 of the '026 patent.⁸ Sharper Image construes the term in both
19 instances to mean "having a length in a vertical direction
20 greater than the width." Ionic Pro's proposed constructions are
21 "a housing extended in at least a vertical direction" and
22 "collector electrode is extended in the vertical direction."

23 The parties both rely on the Webster's Dictionary
24 definitions of "elongate" to support their respective

25
26 ⁸Kaz agrees with Sharper Image that the term should be
27 construed to mean "having a length in a vertical direction
28 greater than the width."

1 constructions. Ionic Pro argues that its construction of
2 "vertically elongated" comports more closely with the
3 dictionary's primary definition of "elongate," which is "to
4 increase the length of: stretch out: lengthen," and which
5 includes as a synonym "extend." However, Sharper Image
6 correctly points out that the definition upon which Ionic Pro
7 relies is the definition of the verb elongate, while the primary
8 definition of the adjective elongate includes "having a form
9 notably long in comparison to its width."

10 Ionic Pro also argues that the preferred embodiment should
11 not be understood to limit the claims. However, that is not
12 what Sharper Image's proposed construction does. In this case,
13 the claims themselves describe both "vertically elongated"
14 housing and collector electrodes; thus, no limitation must be
15 imported from the specification in order to construe the term.
16 The Court construes the term "vertically elongated" as it
17 modifies both "housing" and "collector electrode" to mean
18 "having a length in a vertical direction greater than the
19 width."

20 L. Elongated Along a Direction of Elongation of Said
21 Vertically Elongated Housing

22 Sharper Image and Ionic Pro dispute the meaning of the
23 phrase "elongated along a direction of elongation of said
24 vertically elongated housing" as used to describe the collector
25 electrode in claims 17 and 18 of the '026 patent. Sharper
26 Image's proposed construction is "positioned in the same
27 direction as the vertical housing," while Ionic Pro construes
28

1 the phrase to mean "collector electrode is extended in a
2 vertical direction, the same direction of extension as the
3 housing."

4 Sharper Image's proposed construction substitutes the word
5 "positioned" for the word "elongated" in the claim phrase, while
6 Ionic Pro replaces "elongated" with the word "extended."
7 Neither is appropriate, especially considering that neither
8 proposed construction conforms to the Webster's Dictionary
9 definitions of "elongate" that both parties rely upon.
10 Nevertheless, the disputed phrase is confusing and requires
11 construction.

12 It stands to reason that an object that is "elongated along
13 a direction of elongation" of another object that is vertically
14 elongated must itself be vertically elongated. As used in
15 claims 17 and 18 of the '026 patent, "elongated along a
16 direction of elongation" means nothing more than "vertically
17 elongated." Once the collector electrode is described as
18 "vertically elongated," it is also unnecessary to give meaning
19 to its elongation by comparing it to another object's
20 elongation. The portion of the disputed phrase that reads
21 "along a direction of elongation of said vertically elongated
22 housing" becomes entirely superfluous. The Court therefore
23 construes the phrase "elongated along a direction of elongation
24 of said vertically elongated housing" as it describes the term
25 "collector electrode" to mean simply "vertically elongated."

26 M. Vertically Removable

27 Sharper Image and Ionic Pro dispute the meaning of the term
28

1 "vertically removable" as it is used to describe "collector
2 electrode" in claims 17 and 18 of the '026 patent. Sharper
3 Image construes the term to mean "able to be taken out in a
4 vertical direction," while Ionic Pro proposes "the collector
5 electrode can be ejected in a direction of 90" from the horizon."

6 In order to give effect to its plain meaning, and in order
7 to construe the term in accordance with its construction of the
8 term "vertically lifting said collector electrode," the Court
9 construes "vertically removable" to mean "removable in a
10 vertical direction."

11 N. [Handle] Accessible Through Said Opening

12 Sharper Image and Ionic Pro dispute the meaning of the
13 phrase "accessible through said opening" as used to describe a
14 handle in claim 17 of the '026 patent. Sharper Image construes
15 the phrase to mean "able to be reached via the aperture," while
16 Ionic Pro's proposed construction is "a structural extension
17 that allows user to grasp the structure."

18 Ionic Pro's construction defines only the word "handle,"
19 while failing to incorporate the remaining qualifying language
20 in the disputed term. Sharper Image's construction also fails
21 to give meaning to the entire disputed claim term. The Court
22 construes the term "[handle] accessible through said opening" to
23 mean "structural extension that allows the user to grasp the
24 structure through said opening."

25 O. Vertically Returnable Through Said Opening

26 Sharper Image and Ionic Pro dispute the meaning of the
27 phrase "vertically returnable through said opening" as used in
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claims 17 and 18 of the '026 patent.⁹ Sharper Image construes the phrase to mean "able to be replaced via the aperture in a vertical direction" while Ionic Pro proposes "the second electrode can be returned through the hole on top of the cover when the second electrode is positioned 90° to the horizon."

In order to remain consistent with its construction of "vertically returnable with the assistance of gravity" and "vertically removable," the Court construes the term "vertically returnable through said opening" to mean "able to be replaced in a vertical direction through said opening."

II. The '484 Patent

A. Electrode Cleaning Mechanism

Sharper Image, Kaz and Ionic Pro dispute the meaning of the term "electrode cleaning mechanism" as used in claims 29 and 32 of the '484 patent. Kaz and Ionic Pro argue that the term is a "means-plus-function" element governed by Title 35 U.S.C. section 112(6). Pursuant to section 112(6), Kaz construes the term to mean "a small, generally round member having a hole formed within the member that completely surrounds a wire-shaped electrode, such that the inner walls of the hole frictionally remove debris as the member moves along the electrode's surface." Ionic Pro proposes the following: "Flexible sheets of insulating material each having a slot therein to receive an electrode or beads having a hole therein for receiving the

⁹In C 02-4860 CW, Sharper Image and Kaz agree that the term should be construed to mean "able to be replaced in a vertical direction [through said opening]."

1 electrode." Sharper Image argues that "electrode cleaning
2 mechanism" is not a means-plus-function term and should be
3 construed as meaning "a device for removing deposits from the
4 surface for giving off ions."

5 A means-plus-function claim element generally requires the
6 use of the term "means." Micro Chem., Inc. v. Great Plains
7 Chem. Co., Inc., 194 F.3d 1250, 1257 (Fed. Cir. 1999). If the
8 word "means" does not appear in a claim element, a presumption
9 arises that section 112(6) does not apply. Personalized Media
10 Communications, LLC v. ITC, 161 F.3d 696, 703-04 (Fed. Cir.
11 1998). That presumption may be rebutted if no sufficiently
12 definite structure is recited in the claim. Mas-Hamilton Group
13 v. LaGard, Inc., 156 F.3d 1206, 1214 (Fed. Cir. 1998).

14 Here, neither the term "electrode cleaning mechanism" nor
15 the claims in which it is found use the word "means"; therefore,
16 Kaz and Ionic Pro must rebut the presumption against section
17 112(6)'s applicability by demonstrating that the term "electrode
18 cleaning mechanism" is entirely functional and the claims do not
19 recite sufficient structure. However, the presumption is not
20 easily rebutted. According to a recent Federal Circuit opinion,
21 "while it is true that the term [] does not bring to mind a
22 particular structure, that point is not dispositive. What is
23 important is whether the term is one that is understood to
24 describe structure, as opposed to a term that is simply a nonce
25 word or a verbal construct that is not recognized as the name of
26 structure and is simply a substitute for the term 'means for.'"
27 Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354,

1 1360 (Fed. Cir. 2004). The court further ruled that the fact
2 that a structure is described using functional terms is not by
3 itself dispositive in section 112(6) analysis. Id. at 1359-60.

4 Here, "electrode cleaning mechanism" is clearly described
5 using functional terms. However, read in the context of the
6 relevant claims, the term connotes structure. The '484 patent
7 claims a "method for cleaning an emitter electrode with an
8 electrode cleaning mechanism . . . so that the electrode
9 cleaning mechanism travels, from an initial position, along the
10 emitter electrode and frictionally removes debris from the
11 emitter electrode." '484 Patent at 18:66-19:7. Again, a claim
12 need not describe a particular structure; all that is required
13 is that the claim describe structure generally. Lighting World,
14 382 F.3d at 1360.

15 Kaz cites Toro Co. v. Deere & Co., 355 F.3d 1313 (Fed. Cir.
16 2004), in support of its argument that "electrode cleaning
17 mechanism" should be construed using means-plus-function
18 analysis. In that case, the term "control mechanism" triggered
19 section 112(6) analysis. However, the Toro court ruled that the
20 patent claim clause at issue triggered section 112(6) analysis
21 because it expressly used the word "means" several times, and
22 the plaintiff acknowledged that its claim was written in means-
23 plus-function format. Id. at 1323-24. Toro is therefore not
24 analogous; Sharper Image has not expressly invoked section
25 112(6) by using the word "means." Furthermore, the '484 patent
26 describes "electrode cleaning mechanism" using sufficient
27 structure to avoid section 112(6) applicability.

1 However, the Court cannot accept Sharper Image's proposed
2 construction in its entirety because it incorporates Sharper
3 Image's proposed construction for "emitter electrode," which the
4 Court has already rejected. The term "electrode cleaning
5 mechanism" is therefore construed to mean "a device for removing
6 deposits from the emitter electrode."

7 B. Base Adapted to Support the Housing in an Upright
8 Position

9 Sharper Image and Kaz dispute the meaning of the phrase
10 "base adapted to support the housing in an upright position" as
11 used in claims 29 and 32 of the '484 patent.¹⁰ Kaz argues that
12 the phrase should be construed using means-plus-function
13 analysis, and proposes the following construction: "a generally
14 round, flat attachment, radially extending from the lower-most
15 surface of the housing and having a diameter that is
16 substantially larger than that of the housing, that attachment
17 configured to bear the weight of the housing and hold the
18 housing in an upright and vertical position." Sharper Image
19 argues that the phrase is not a means-plus-function element and
20 should be construed as follows: "bottom structure for holding up
21 the main body in a vertical orientation."

22 Neither the phrase itself nor the claims in which it is
23 found contain the word "means." Kaz must therefore rebut the
24 presumption that section 112(6) does not apply by demonstrating
25 that no sufficient structure is recited in the claim. The Court

26 ¹⁰In C 04-0824 CW, Sharper Image and Ionic Pro agree that
27 the term should be construed to mean "bottom structure for
28 holding up the housing in a vertical orientation."

1 finds that the phrase "base adapted to support the housing in an
2 upright position" connotes sufficient structure to deny Kaz this
3 argument. The Court adopts the construction agreed upon by
4 Sharper Image and Ionic Pro in C 04-0824 CW, which more closely
5 resembles the phrase's plain and ordinary meaning. "Base
6 adapted to support the housing in an upright position" is
7 construed to mean "bottom structure for holding up the housing
8 in a vertical orientation."

9 C. Initial Position

10 Sharper Image, Kaz and Ionic Pro dispute the meaning of the
11 term "initial position" as used in claims 29 and 32 of the '484
12 patent. The Court rules that "initial position" does not
13 require construction and is given its plain and ordinary
14 meaning.

15 D. Elongated Housing

16 Sharper Image and Ionic Pro dispute the meaning of the term
17 "elongated housing" as used in claims 29 and 32 of the '484
18 patent. Sharper Image's proposed construction is "a main body
19 that has a length greater than its width," while Ionic Pro
20 construes the term to mean "a cover extended in at least one
21 direction."

22 Using the Webster's Dictionary definition of the adjective
23 "elongate," the Court construed the term "vertically elongated"
24 to mean "having a length in a vertical direction greater than
25 the width." That dictionary definition is also appropriate
26 here. The Court construes the term "elongated housing" to mean
27 "housing having a length greater than its width."

E. Rotating the Housing . . . so that the Electrode Cleaning Mechanism Travels Back to the Initial Position

Sharper Image and Ionic Pro dispute the meaning of the phrase "rotating the housing . . . so that the electrode cleaning mechanism travels back to the initial position" as used in claims 29 and 32 of the '484 patent. Sharper Image construes the phrase to mean "turning the main body . . . such that the device for removing deposits returns to its beginning location." Ionic Pro's proposed construction is "turning the housing to cause the flexible sheets of insulating material or beads to return to the initial position."

Neither party's construction assists in interpreting the claim language. Read in the context of the claims themselves, the disputed phrase is straightforward and does not require construction by this Court. The phrase "rotating the housing . . . so that the electrode cleaning mechanism travels back to the initial position" is given its plain and ordinary meaning.

III. The '801 Patent

Claim 24 of the '801 patent reads as follows:

A diode-type electrokinetic transducer, comprising:
a first array of ion emitting surfaces;
a second array of ion receiving surfaces, the cross sections of the ion receiving surfaces of the second array are larger in area than the cross sections of the ion emitting surfaces of the first array;
the distance between any two adjacent ion emitting surfaces in the first array being substantially equal to the distance between any two adjacent ion receiving surfaces in said second array;
the ion emitting and ion receiving surfaces of the respective first and second arrays directly confronting each other across a space containing ambient air such that any ion emitting surface in the first array is substantially equidistant from the closest two ion receiving surfaces in the second array; and,

1 a voltage pulse generator coupled between the first and
2 second array for generating a signal having voltage pulses
3 of a single polarity, the generator biasing the signal so
4 that the absolute value of the voltage of said signal
5 stays above a predetermined minimum value;
6 wherein upon energizing the arrays, air ions flow from the
7 first array past the second array and air-borne
8 particulates are precipitated onto an ion receiving
9 surface of the second array.

10 A. Array of Ion Receiving Surfaces

11 Sharper Image and IPS dispute the meaning of the term
12 "array of ion receiving surfaces" as used in claim 24 of the
13 '801 patent. Sharper Image construes the term to mean "an
14 arrangement of electrically conductive bodies for collecting
15 ions and airborne particles," while IPS's proposed construction
16 is "an arrangement of each of the conductive surfaces coupled to
17 a common voltage supply to receive ions."

18 In its March 17 Order in C 02-4860 CW, this Court construed
19 the term "a second array of ion receiving surfaces" as used in
20 claim 24 of the '801 patent. In the interest of the uniformity
21 that is encouraged by the Supreme Court in Markman, the Court
22 adopts that construction here. The Court construes the term
23 "array of ion receiving surfaces" to mean "an arrangement of
24 surfaces for collecting ions and airborne particles."

25 B. Array of Ion Emitting Surfaces

26 Sharper Image and IPS dispute the meaning of the term
27 "array of ion emitting surfaces" as used in claim 24 of the '801
28 patent. Sharper Image construes the term to mean "an
arrangement of electrically conductive bodies for giving off
ions," while IPS construes the term to mean "an arrangement of
each of the conductive surfaces coupled to a common voltage

1 supply to emit ions."

2 The Court's construction of the term "array of ion
3 receiving surfaces" informs the construction of "array of ion
4 emitting surfaces." The Court construes the disputed term to
5 mean "an arrangement of surfaces for giving off ions."

6 C. Surface

7 Sharper Image and IPS dispute the meaning of the term
8 "surface" as it is used in claim 24 of the '801 patent. IPS
9 construes the term to mean "the exterior of an object," and
10 Sharper Image argues that the term need not be construed and
11 should instead be given its plain and ordinary meaning.

12 The term "surface" does not require construction by the
13 Court and is given its plain and ordinary meaning.

14 D. The Distance

15 Sharper Image and IPS dispute the meaning of the term "the
16 distance" as it is used in claim 24 of the '801 patent. Sharper
17 Image construes the term to mean "length of space," while IPS's
18 proposed construction is "requires that every two adjacent
19 surfaces in the same array be equidistant from one another so
20 there is the same distance between any two adjacent surfaces in
21 the same array."

22 Not only is IPS's proposed construction unnecessarily long
23 and confusing, it uses the disputed claim term in the
24 construction itself. Sharper Image's proposition that
25 "distance" means "length of space" is logical and gives that
26 claim term its plain and ordinary meaning. However, because
27 claim 24 contemplates one particular "distance" that separates
28

1 adjacent surfaces, Sharper Image cannot read the word "the" out
2 of the claim limitation. The Court construes "the distance" to
3 mean "the length of space."

4 E. Any

5 Sharper Image and IPS dispute the meaning of the term "any"
6 as it is used in claim 24 of the '801 patent. Sharper Image's
7 proposed construction is "any," while IPS construes the term to
8 mean "every."

9 In claim 24, "any" is used as follows: "The distance
10 between any two adjacent" surfaces in the electrode arrays.
11 Because "the distance" as it is used here contemplates one
12 particular length of space that separates each set of adjacent
13 surfaces, it follows that "any" means "each and every" set of
14 adjacent surfaces. Thus, read in the context of the claim
15 language, the term "any" means "each and every."

16 F. Adjacent

17 Sharper Image and IPS dispute the meaning of the term
18 "adjacent" as used in claim 24 of the '801 patent. Sharper
19 Image construes the term to mean "next to one another," while
20 IPS's proposed construction is "near one another and not
21 separated by anything of the same kind."

22 Claim interpretation that excludes a preferred embodiment
23 is not favored. Burke, Inc. v. Bruno Indep. Living Aids, Inc.,
24 183 F.3d 1334, 1341 (Fed. Cir. 1999) ("The district court's claim
25 interpretation [] would exclude the preferred embodiment
26 described in the specification and, thus, cannot be
27 sustained."). IPS's proposed construction of the term

1 "adjacent" excludes the preferred embodiment illustrated in
2 Figure 3 of the '801 patent. In Figure 3, an array of collector
3 electrodes is positioned such that the electrodes, aligned like
4 the teeth of a comb, extend toward another array of electrodes
5 that are similarly aligned and facing the first array. The
6 arrays are offset such that the electrodes from each array are
7 positioned between one another. In this embodiment, IPS's
8 construction would mean that the electrodes within an array are
9 not "adjacent" to one another because an electrode from the
10 opposite array is positioned between them (thus "separating"
11 them).

12 Sharper Image's proposed construction is logical and
13 comports with the plain and ordinary meaning of "adjacent" while
14 not excluding the preferred embodiment described in the '801
15 patent. The Court construes the term "adjacent" to mean "next
16 to one another."

17 G. Substantially Equal

18 Sharper Image and IPS dispute the meaning of the term
19 "substantially equal" as it is used in claim 24 of the '801
20 patent. Sharper Image construes the term to mean "generally
21 equal," while IPS's proposed construction is "encompasses only
22 differences that are imperceptible to the naked eye and under no
23 circumstances greater than ten percent."

24 The term "substantially equal" as used in claim 24 of the
25 '801 patent does not require construction by the Court and is
26 given its plain and ordinary meaning.

27 H. Directly Confronting

1 Sharper Image and IPS dispute the meaning of the phrase
2 "directly confronting" as used in claim 24 of the '801 patent.
3 Sharper Image construes the term to mean "facing each other"
4 while IPS construes the term to mean "facing one another with no
5 other element therebetween."

6 The Court previously construed this disputed term in the
7 March 17 Order in C 02-4860 CW.¹¹ The Court construed the phrase
8 "directly confronting" then, as it does now, to mean "facing
9 each other."

10 I. Voltage Pulses of a Single Polarity

11 Sharper Image and IPS dispute the meaning of the term
12 "voltage pulses of a single polarity" as used in claim 24 of the
13 '801 patent. Sharper Image construes the term to mean "an
14 electrical signal of voltage pulses that are either positive or
15 negative." IPS's proposed construction is "a pulsed voltage
16 signal having a baseline and periodic deviations from the
17 baseline, the deviations of which extend in only one direction
18 relative to the baseline." At the request of the Court, the
19 parties have submitted supplemental briefing on the basic tenets
20 and properties of electricity, pulses, voltage, waves and
21
22

23
24 ¹¹During claim construction in C 02-4860 CW, Sharper Image
25 also construed "directly confronting" to mean "facing each
26 other," while the defendants proposed "positioned across a
27 continuous space, such that air flows electrokinetically across
28 this space and through the device." Thus, the Court previously
rejected a construction that included a limitation ("across a
continuous space") similar to that which IPS proposes here
("with no other element therebetween").

1 polarity.¹²

2 The primary dispute between the parties is over the
3 reference point relative to which the voltage pulses are
4 positive or negative. Sharper Image argues that its
5 construction assumes that the reference point is zero, or
6 ground, and that this assumption is based both on common sense
7 and on the natural meaning of the terms "positive" and
8 "negative." IPS's primary argument to the contrary is that the
9 next clause in claim 24 states that "the absolute value of the
10 voltage of said signal stays above a predetermined minimum
11 value." IPS argues that this subsequent clause necessarily
12 means that the pulse signal can never equal zero, and therefore
13 to construe the disputed term as based upon a zero point of
14 reference would render the subsequent clause superfluous.

15 The logical meaning of "voltage pulses of a single
16 polarity" is that the signal consists of pulses that are either
17 all positive or all negative relative to a zero voltage
18 reference. Further, the specification language supports Sharper
19 Image's construction: "At no time does the voltage pulse
20 wavetrain drop to the zero voltage reference level (ground)."
21 '801 Patent at 8:1-2. Contrary to IPS's argument, Sharper
22 Image's construction does not render the subsequent phrase in
23 claim 24 superfluous. That phrase may mean, as IPS argues, that
24 the absolute value of the pulse signal, whatever its polarity,

25
26 ¹²The Court grants the parties' cross-motions to bar use of
27 extrinsic evidence to change the meaning of the claim term. The
28 supplemental filings requested by the Court were used only as a
tutorial for background information.

1 cannot equal zero. This is not superfluous to the disputed
2 phrase, as construed by Sharper Image, requiring that the signal
3 of voltage pulses be either positive or negative, thus allowing
4 a signal with a baseline equal to zero.

5 Sharper Image's proposed construction of "voltage pulses of
6 a single polarity" is logical and conforms to the '801 patent's
7 specification language. The Court construes "voltage pulses of
8 a single polarity" to mean "an electrical signal of voltage
9 pulses that are either positive or negative."

10
11 CONCLUSION

12 The Court construes the disputed terms and phrases as
13 stated above. The Court DENIES Sharper Image's motion to strike
14 Kaz's responsive claim construction brief (C 02-4860 CW, Docket
15 No. 235), GRANTS the cross-motions by Sharper Image and IPS to
16 bar use of extrinsic evidence (C 03-4426 CW, Docket Nos. 77 and
17 78), and DENIES Ionic Pro's request for leave to file a sur-
18 reply brief
19 (C 04-0824 CW, Docket No. 124).

20 IT IS SO ORDERED.

21
22
23 /s/ CLAUDIA WILKEN

24 Dated: 3/21/05

25 CLAUDIA WILKEN
26 United States District Judge
27
28